STATE OF ILLINOIS
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URBANA

CIRCULAR 201

UNPUBLISHED REPORTS ON OPEN FILE

I. MINERAL FUELS

BY

MARGARET B. BROPHY

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FOREWORD

The Illinois State Geological Survey has accumulated through the years many unpublished technical reports and maps. Although most major research projects are designed for eventual publication of results, some brief reports on specialized subjects, local areas, or problems of limited interest have been prepared for specific purposes and were not intended for publication. Other more extensive reports were not published when they were timely because of insufficient printing funds. These various unpublished reports and maps contain a wealth of information on the geology and mineral resources of Illinois, and it has been the policy of the Geological Survey to make them available to persons who visit the Survey. As the number of such items in the files has increased, it has become difficult for representatives of industry and other interested persons to learn what reports are available. This circular has been prepared as a guide to open-file reports on mineral fuels. Subsequent lists will cover engineering geology, industrial minerals, and stratigraphy and areal geology.

Because there is only one copy of most of the listed items, they cannot be lent, but must be consulted in the Survey's Mineral Resource Records Division. The reports are open for public inspection, and the information is available for use by anyone; if data from them are included in written documents, the source must be cited.

John C. Frye

UNPUBLISHED REPORTS ON OPEN FILE
I. MINERAL FUELS

by

Margaret B. Brophy

ABSTRACT

Sixty-five unpublished reports dealing with coal and oil and gas are listed with brief annotations. They are on open file at the Illinois State Geological Survey and are available for examination but not for loan.

The following list includes 65 manuscripts comprising 3780 manuscript pages, 561 illustrations, and 42 separately indexed maps. The reports are grouped under two headings - Oil and Gas, and Coal - and are arranged chronologically within each group. The earliest report in each group is dated 1918. Authorship is indicated by initials preceding each manuscript number. An alphabetical list of authors is given at the end of this circular.

We have endeavored to limit this list to those manuscripts that would be of greatest interest to the public. Many others which may be of particular interest to some are available for reference through the use of our card catalog. Approximately 140,000 well logs are also open to the public in the Mineral Resource Records Division.

OIL AND GAS

MLN-2 Cementation practice in Illinois oil fields, 1918. (13 p.)
Description of McDonald method, its benefits, and production of some wells before and after cementation.

JHH-1 Inventory of Illinois petroleum reserves, by JHH and LAM, 1922. (56 p.)
List of estimates and description of proved, probable, and possible reserves. Comments on estimates for some individual pools.

JEL-9 Gas occurrence near Sigel-Teutopolis area, Effingham County, 1922. (4 p., 2 figs.)
Gas production due to buried organic matter - coaly shale or plant debris. Limited to preglacial valley not meriting further drilling.

EL-32 Oil work in Monroe County, 1923. (21 p.)
Structural studies based on field mapping. Accompanying maps 4103.M61 d5.2-2 and c3-1 (structure on Salem limestone).

GWH-3 Drilling for oil in Illinois, Jan. 1, 1924 - March 1, 1925. (6 p.)
Well locations listed by county, giving company and farm names with section, township, and range.

JEL-21 Methane seep on Fowler Farm, sec. 9, T. 8 S., R. 7 E., Saline County, 1925(?) (2 p.)
Valley fill probably covers rotting organic material, which is source of gas forced out during wet periods.

HCO-2 New developments in Allendale oil field in Illinois, 1925. (8 p.)
Story of development on basis of Survey predictions and suggestions.

AHB-4 Jacksonville gas field: example of accumulation related to unconformity, 1928. (7 p.)
Nature and origin of difference between porous and nonporous parts of the Salem limestone oil-bearing rocks.

CRC-1 Study of some connate oil-field waters, 1928. (35 p.)
Master's thesis. Brief geology of northern Parker township pool, Clark County; results of field investigations; chemical analyses of waters; data on corrosion and recommendations for its prevention.

JEL-65 Relations of texture to development of porosity by weathering, 1929. (22 p., 1 pl.)
Results and interpretation of evidence from water absorption tests on limestones, indicating importance of clastic zones in petroleum exploration.

GFM-7 Northern Crawford County oilfields, 1929. (105 p., 3 pls.)
Parts of Robinson and Oblong Township pools and nearby minor producing areas. History of development, subsurface stratigraphy of Ordovician, Devonian-Silurian, Mississippian, and Pennsylvanian systems. Structural features, 9 graphic log cross sections: 4103.C7 t-1 through 8, and 4102 t-36; structure on Ste. Genevieve formation and dry holes: maps 4103.C7 i8-7 and d5.2-1. Production statistics and recovery methods. 64 p. well logs.

DJF-2 Western Lawrence County oilfield, 1930; revised by PSM, 1935. (211 p., 7 pls.)
Stratigraphy, particularly Mississippian; occurrence, structural and production relationships of oil. Analyses of petroleum, gas, and oilfield waters. Identified well records of depth, thickness, and production of producing sands, 205 p.

AHB-12 Oil production from the Mississippian in Illinois, 1931. (12 p., 1 pl.)
Compilation of 1906-1929 production figures from published and unpublished sources.

AHB-15 Possibility of carbon dioxide production from Hicks dome, Hardin County, 1932. (11 p.)
General geology and geologic history of area; theories and data on CO_2 production elsewhere in the U.S.A.

AHB-18 Texts of addresses given at First Annual Petroleum Conference of Illinois, 1933. (50 p., 14 pls.; also 31 p. not by members of Survey staff.)

Contains "Geologic data on repressuring in Illinois," by AHB, "Repressuring methods in Illinois," by FS, "Field data on natural and accidental water flooding in Illinois oil fields," by AHB.

CABr-1 Report on property in T. 7 N., R. 11 W. [secs. 13-15, 22-26], Crawford County, 1933. (12 p., 2 pls.)

Considers oil and gas possibilities and need for test holes before recommendations can be made. Logs of test holes taken through glacial drift only.

RJP-6 Corrosion reduction by cathodic protection, 1936. (81 p., 14 pls.)

Investigation of effects of intermittent and continuous immersion of cold rolled steel strips in brines, to determine the amount of cathodic protection afforded drawn steel oil-well casing at the expense of anodic solubility of the drawn steel tubing.

WFH-1 Study of correlation value of insoluble residues of Ste. Genevieve limestones at selected localities in Illinois and adjacent states, 1939. (108 p., 43 pls.)

Describes distinguishing characteristics and classification of zonal residues, procedure of collection and preparation, zones and localities sampled. Field notes for sections sampled, 62 p.; 13 plates showing constituents of coarse fraction and total residue make-up. Correlation chart for areas studied.

AHB-57 Conservation of oil and gas in Illinois, 1940. (12 p., 4 pls.)

Prepared in connection with proposed law on conservation. General views on production and waste and some specific data on congested areas of production in the Salem, Centralia, and Storms pools.

JLC-1 Geology of the Bartelso oil field, Clinton County, 1940. (51 p., 7 pls.)

Master's thesis. History of development, production statistics, repressuring and drilling methods, oil and water analyses, and stratigraphy, particularly of the Mississippian system.

MHS-1 Structure map of the pre-Pennsylvanian surface in Illinois, 1941. (25 p., 2 pls.)

Master's thesis. Structure map based on 900 datum points, brief geologic history, areal geologic map showing distribution of pre-Pennsylvanian rocks, and discussion of structural features.

CWC-1 Production, utilization, and waste of natural gas in Illinois, by CWC and AHB, 1942. (10 p.)

Tables listing pools, area, number of wells, producing formation, and average depth.

AB-2 Production conditions, Benton field, Franklin County, 1943. (13 p., 15 pls.)

Statistics on oil, gas, and brine production and related geologic factors, including bottom-hole pressure data and core analyses

of Tar Springs sandstone for numerous wells. Discusses water flooding possibilities. 3 structure maps, 1 isopach map. Accompanying map 4103.F7 i8-11 shows well locations.

AHB-94 LaSalle anticlinal belt, Illinois, 1948. (16 p., 2 pls.)
Abstract published AAPG Bull., Feb. 1948, p. 301. Geologic history, structural control of oil accumulation, oil and gas development, and further possibilities.

RJC-1 Proposed Johnsonville water flood, Wayne County, 1948. (9 p., 2 figs., 2 pls.)
Water flooding data on accidental flood and possibilities for additional peripheral flooding.

WGL-1 Secondary recovery of petroleum from Bellair pool, Crawford County, 1948. (75 p., 4 pls.)
Master's thesis. Includes tables of water-injection data, initial production records, graphs of porosity, permeability, oil content and percent saturation on all core wells, photographs of oil field activities.

RMS-2 Factors in secondary recovery of petroleum by water flooding in Illinois, 1948. (52 p., 9 pls.)
Master's thesis. History and principles of secondary recovery; detailed data on Maunie, South field, White County.

JCB-1 Geology of the McKinley pool, Washington County, 1949. (24 p., 3 pls.)
Master's thesis. Briefly discusses Silurian, Devonian, Mississippian, and Pennsylvanian stratigraphy, structure, and production. 4 structure maps, 3 isopach maps, 3 cross sections.

WSC-1 Stratigraphic control of oil accumulation, Brown's East area, Wabash and Edwards counties, 1950. (25 p., (9 p. missing) 10 pls.)
Master's thesis. Effect on oil accumulation of a post-upper Cypress pre-Barlow channel. Briefly covers lithology and structur of part of the Mississippian system and its producing zones. Sev en structure and isopach maps and two cross sections.

BG-1a Tar Springs sandstone in southeastern Illinois, 1949-50. (59 p., 24 pls.)
Detailed study of occurrence and character, including lithology, porosity, permeability, sieve analysis, heavy minerals, grain characteristics. Interprets sedimentary history and structural, lithologic, and oil production relationships. 3 cross sections, 1 isopach map, 1 sandstone percentage map, and accompanying fen diagrams R4102 i8-44.

WLV-1 Geologic and economic aspects of water flooding the Ikemire-Henry leases, Main pool, Crawford County, 1950. (59 p., 19 pls.)
Master's thesis. History of production and injection; geology of productive sand lens (including contour map and cross sections)

history; permeability and porosity tables, water flood, production, and cost data.

LEW-42 Subsurface geology of central Illinois, 1951. (15 p., 41 pls.)
Given before Illinois Geological Society, Olney, 1949, and Survey staff, 1950. Contains small-scale isopach, structure, and areal geologic maps, and cross sections.

COAL

GHC-8 Pyrite in Illinois, 1918. (161 p.)
Investigations of pyrite and recoverable pyrite associated with coal, grouped by districts, counties, and fields, with details of occurrence by mines. Bull. 38 was taken from this manuscript, but this contains detailed information on certain mines.

GHC-44 Differential shrinkage of coal beds in Illinois, 1919. (32 p.)
Specific data on various mines in Illinois coal fields.

GHC-6 West Frankfort - Galatia quadrangle report, 1923. (Original: 151 p., 4 pls.; revision: 217 p., 10 pls.)
Physiography and topography, geologic history and structure, occurrence and character of Quaternary and Pennsylvanian strata, and economic resources, chiefly coal and possibly clay. Accompanying maps 4107 d5.2-12 through 15 (coal structure); 4107 d5.4-23, 24 (glacial); 4107 i5.1-5, 6 (coal mines); 4107 t-13 and u-6 (geologic sections).

GHC-13 Coal stripping possibilities in Schuyler County, 1927. (22 p., 5 pls.)
Results of field investigations, including sections measured in mines. Occurrence and character of No. 5 coal and its overburden. Suggests areas of best possibilities. Map shows No. 5 coal outcrops and structure.

GHC-12 Geology of the Sparta region, Randolph County, 1928. (107 p., 3 pls.)
Occurrence and character of Pennsylvanian strata, including various sections from outcrops. Geologic history and mineral resources, principally coal and some oil and limestone. Maps show rock and coal outcrops, oil and gas well locations, and structure on No. 6 coal.

AB-1 Utilization of Illinois coal, 1929. (143 p., 46 pls.)
Summarizes facts on proper use of bituminous coal and discusses principles of combustion. Treats in nontechnical terms boiler horsepower and efficiency, methods of feeding fires, types and sizes of furnaces, and various industrial and residential aspects of coal use.

GHC-46 Preliminary report on the composition and softening temperature of the ash of Illinois coals, 1932. (72 p., 13 pls.)
Ash and fusibility determinations from several sources; recon-

struction of original mineral matter; geographic variation; interrelationships between ash amount, fusion, sulfur, etc.

LCM-15 Lithological and botanical constituents of coal No. 6 at Nashville, Illinois, 1933. (31 p., 24 pls.)
Master's thesis. Petrology of coal, chemical analysis of banded ingredients, photomicrographs of coal thin sections.

ECD-1 The weathering of Illinois coal, 1934. (95 p., 14 pls.)
Master's thesis. No. 5 coal, stratigraphy, chemical analyses, analysis of physical changes on weathering (luster, laminations, tenacity, moisture, vitrain disintegration, fracture fillings, etc.). Solvent extractions. Photographs.

WBR-1 Clay-veins in Illinois Springfield (No. 5) coal, 1934. (64 p., 25 pls.)
Master's thesis. Note published: Ill. Acad. Sci. v. 27, no. 2, p. 115, 1934. Description of veins, stratigraphy, description of exposures, relation of clay veins to structure, and origin of clay.

GHC-43 Some evidences of shrinkage of certain Illinois coal beds since their burial, 1935. (12 p.)
Evidences: (1) shapes of gray shale lenses, "rolls," "white top;" (2) variations in interval due to thickness variation; (3) sandstone cut-outs; (4) "horse-backs."

PSM-3 Geology and mineral resources of the Buda quadrangle, 1931, revised 1934-5. (192 p., 62 pls.)
Physiography, geologic history, detailed Pennsylvanian and Pleistocene stratigraphy and outcrop sections. Quadrangle contains good exposures of Pennsylvanian and moraines of four ice sheets. Economic resources include minable coal, shale, sand and gravel, molding sand, and peat. Records of coal tests and other borings, glacial map 4107 d5.4-10, outcrop map 4107 d5.1-19, preliminary areal geologic map 4107 i5.4-2.

GHC-33 I. Coal stripping possibilities, western and northern Illinois and southeast Shelby County, by GHC, 1936. (149 p.)
II. Stratigraphic succession of Pennsylvanian strata, western Illinois by HRW and GHC, 1936. (72 p.)
I. Maps and brief report published as Circular 19. Outcrops and character of coal Nos. 1, 2, 4, 5, and 6 in western and northern Illinois, and Trowbridge coal in Shelby County.
II. Emphasizes cyclothem units and describes occurrence and identifying characteristics of certain strata.

GHC-39 Coal resources in Shawneetown area, 1938. (5 p.)
Detailed geology and possibilities for mining in area.

GHC-40 The bases for a type classification of coal, 1938. (22 p.)
Different aspects of coal composition and origin (other than metamorphism) such as types of plant material, conditions of incoalation, which can be used for type classification. Four classes of types: fusainized, anthraxylous, attrital, and stony.

GHC-42 Some varieties of banded bituminous coals from the Eastern Interior coal basin, 1940(?) (40 p.)
Necessity for adequate descriptions of coal beds in terms of constituents; megascopic and microscopic terminology; schedule for description of coal beds.

AES-1 Some geologic descriptions of the roof strata and associated structure of No. 6 coal in the Staunton-Gillespie region, 1941. (117 p.)
Master's thesis. Stratigraphy, detailed description of roof strata, discussion of origin of various roof phenomena (sedimentational and structural).

GRY-3 The oxidizing power of Illinois coal. III. Banded ingredients of Franklin County (No. 6) coal, by GRY and MHW, 1942. (6 p., 2 pls.)
Presented before Division of Gas and Fuel Chemistry, American Chemical Society, Buffalo, N.Y. Study of loosely bound, reactive oxygen that becomes affixed to coal exposed to air; variation with time in amount of this oxygen for a whole coal and banded ingredients isolated from it.

GHC-45 Selection of Illinois coal for the domestic, hand-fired heating apparatus, 1943. (16 p.)
Five rules for buying coal with explanations for the layman on how to apply them.

TTQ-1 Economic geology of Illinois coal, by TTQ and LAH, 1943. (36 p., 13 pls.)
Master's thesis. Historical and economic study.

GHC-41 Phyteral and maceral, 1943. (19 p.) Revision, 1945(?) (12 p.)
Discusses concept of coal as a rock and "macerals" as analogous to minerals; rejects concept because coal is an agglomeration of plant entities (phyterals) which can be identified in thin section.

GHC-47 Coal petrography, 1945. (155 p., 1 pl.)
Condensed version published in "Chemistry of Coal Utilization," v. I, p. 86-131, 1945. Classification, methods of research, paleobotanical studies, chemical investigations, and practical applications of coal petrography. Includes extensive bibliography.

LCM-16 Bulk density studies of coal by LCM and CCB, 1940-1946. (31 p., 24 pls.)
Laboratory and field procedures; bulk density in railroad cars.

CCB-1 An analysis of the separation of coal into low-density and high-density fractions on a concentrating table, 1947. (124 p., 26 pls.)
Ph.D. thesis. Chemistry, size, specific gravity, and statistical analyses of washability experiments. Influence of major variables of tabling process on product. Economic aspects of tabling.

ALE-1 Correlation studies of the Trivoli No. 8 coal in Illinois by plant microfossils,, 1947. (18 p., 8 pls.)
Master's thesis. Includes data used in Bull. 74. Sampling, prepa-

ration, description of spores with photomicrographs. Abundance and variation of spores. Stratigraphic conclusions.

RS-1 Impact breakage of coal, 1947. (13 p., 25 pls.)
Petrographic composition of broken-coal products as produced by various types of breakage. Selective concentration of banded ingredients by impact breakage.

GRY-1 Bituminous coal, 1947. (54 p.)
A rather popular treatment of the organic chemistry of coal, designed for readers who know chemistry but are unfamiliar with coal. Introductory material treats origin and physical nature of coal briefly.

ACB-5 Mineral resources of Knox County, 1949. (6 p., 2 pls.)
Report prepared for Knox County Planning Commission. Brief outline of resources, with maps showing generalized areas of sand and gravel deposits (1948 data) and approximate areas in which coal occurs (1936 data).

GHC-37 Coal petrography: a developing technique, 1951. (45 p.)
Presented at the Gordon Research Conference, New Hampshire. Summary paper on techniques, geologic aspects, terminology, rank variation, physical features.

RS-2 X-ray diffraction studies of some physical components of coal (outline), 1951. (20 p.)
X-ray patterns of vitrains, fusains, resins, spores, cutinite, waxes.

GRY-2 Absorption of oxygen by coal. The effects of low temperatures and of added antioxidants, by GRY, RHO, and MWL, 1951-52. (21 p.)
Method and results of experiments.

CEC-1 Some roof bolting observations in Christian County coal mines, 1954 (25 p., 5 pls.)
B. S. thesis. Geology, bolting practice and equipment, testing. Photographs of installations and equipment.

RRC-1 Geologic study of coal mine roof strata of the Herrin (No. 6) coal near Virden, 1954. (29 p., 18 pls.)
Master's thesis. Stratigraphy, description of roof strata, laboratory studies (size analysis, water sorption, clay mineralogy).

GRY A card file listing literature references on removal and recovery o sulfur compounds from gases. A file of some 1900 entries (each gi ing author, title, original reference, and Chemical Abstracts refer- ence) referring to journal articles and patents on the subject of re- moval of sulfur compounds from gases. Divided into two lists: (1) reduced sulfur, such as hydrogen sulfide and organic sulfides as found in coke-oven gas, and (2) oxides of sulfur as found in stack gases. The former contains about 2/3, the latter about 1/3, of the

entries. Arranged chronologically according to appearance in Chemical Abstracts, but not otherwise sorted. Covers years 1932 to date. Available in the office of G. R. Yohe, Division of Coal Chemistry, Natural Resources Building, Urbana.

Bandy, J. C.	JCB
Bays, C. A.	CAB
Bell, A. H.	AHB
Bement, A.	AB
Bevan, A. C.	ACB
Boley, C. C.	CCB
Brantingham, C. A.	CABr
Cady, G. H.	GHC
Caldwell, W. S.	WSC
Carlton, J. L.	JLC
Carter, C. W.	CWC
Cassin, R. J.	RJC
Childers, C. E.	CEC
Clark, C. R.	CRC
Conlin, R. R.	RRC
Dapples, E. C.	ECD
Eddings, A. L.	ALE
Fisher, D. J.	DJF
Grote, B.	BG
Hance, J. H.	JHH
Hawley, G. W.	GWH
Holmes, L. A.	LAH
Hoover, W. F.	WFH
Lamar, J. E.	JEL
Lang, W. G.	WGL
Lansford, M. W.	MWL
McCabe, L. C.	LCM
McClure, P. S.	PSM
MacClintock, P.	PMC
Moulton, G. F.	GFM
Mylius, L. A.	LAM
Nebel, M. L.	MLN
Oesterling, H. C.	HCO
Organist, R. H.	RHO
Piersol, R. J.	RJP
Quirke, T. T.	TTQ
Roe, W. B.	WBR
Siever, R.	RS
Smith, M. H.	MHS
Squires, F.	FS
Stephens, R. M.	RMS
Vineyard, W. L.	WLV
Wanless, H. R.	HRW
Wilt, M. H.	MHW
Workman, L. E.	LEW
Yohe, G. R.	GRY

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